

Amendments to the Specification

The amendments given below have been numbered for ease of reference to them in the Remarks section of this Submission.

- 5 1. Please replace the paragraph beginning on page 5, line 15, with the words "In a first preferred aspect, this invention..." and ending on page 5, line 26, with the words "...measured at a pressure of 0.035 kg/cm²." by the following amended paragraphs.

10 In a first preferred aspect, this invention provides a gas-permeable membrane which is useful in the packaging of respiring biological materials and which comprises

- (a) a microporous polymeric film comprising a network of interconnected pores such that gases can pass through the film, and
- (b) a polymeric coating on the microporous film,

wherein

- 15 (1) the pores in the microporous film have an average pore size of less than 0.24 micron;
- (2) at least 70% of pores of the microporous film have pore size of less than 0.24 micron;
- 20 (3) less than 20% of the pores in the microporous film have pore size less than 0.014 micron;
- (4) at least 80% of the pores in the microporous film have pore size less than 0.15 micron; and
- (5) the polymeric coating has a thickness such that changing the permeability of the microporous film so that the membrane
- 25 (i) ~~has a P₄₀ ratio, over at least one 10°C range between -5 and 15°C, of at least 1.3;~~
- (ii) has an oxygen permeability (OTR), at all temperatures between 20° and 25°C, of at least 775,000 ml/m².atm.24 hrs (50,000 cc/100 inch².atm.24 hrs); and
- 30 (ii) (iii) has an R ratio of at least 1.5;
- the P₄₀, OTR and R values being measured at a pressure of 0.035 kg/cm².

Optionally, depending upon the coating polymer, the membrane has a P_{10} ratio, measured at a pressure of 0.035 kg/cm^2 , over at least one 10°C range between -5 and 15°C , of at least 1.3.

5 In a second preferred aspect, but this invention provides a gas-permeable membrane which is useful in the packaging of respiring biological materials and which comprises

(a) a microporous polymeric film comprising a network of interconnected pores such that gases can pass through the film, and

10 (b) a polymeric coating on the microporous film,

wherein

(1) the pores in the microporous film have an average pore size of less than 0.24 micron ; and

(2) the microporous film was prepared by a process comprising the steps of

15 (A) preparing a uniform mixture comprising a polymeric matrix material in the form of a powder, a finely divided, particulate, substantially water-insoluble filler, and a processing oil;

(B) extruding the mixture as a continuous sheet;

20 (C) forwarding the continuous sheet, without drawing, to a pair of heated calender rolls;

(D) passing the continuous sheet through the calender rolls to form a sheet of lesser thickness;

25 (E) passing the sheet from step (D) to a first extraction zone in which the processing oil is substantially removed by extraction with an organic extraction liquid which is a good solvent for the processing oil, a poor solvent for the polymeric matrix material, and more volatile than the processing oil;

30 (F) passing the sheet from step (E) to a second extraction zone in which the organic extraction liquid is substantially removed by steam or water or both; and

(G) passing the sheet from step (F) through a forced air dryer to

- remove residual water and organic extraction liquid; and
- (3) the polymeric coating has a thickness such that the membrane
- 5 (i) has an oxygen permeability (OTR), at all temperatures between 20
and 25 °C, of at least 775,000 ml/m².atm.24 hrs (50,000 cc/100
inch².atm.24 hrs); and
- (ii) has a CO₂/O₂ permeability ratio(R) of at least 1.5;
the OTR and R values being measured at a pressure of 0.035 kg/cm²
(0.5 psi).

10 Optionally, depending upon the coating polymer, the membrane has a P₁₀ ratio,
measured at a pressure of 0.035 kg/cm², over at least one 10°C range between -5 and
15°C, of at least 1.3.

3. Please cancel the amendment requested in paragraph 4 of the Preliminary
Amendment mailed October 12, 2001 (replacement of the paragraph beginning on page
15 5, line 28, with the words "In a second preferred aspect, this invention..." and ending on
page 6, line 6, with the words "... measured at a pressure of 0.035 kg/cm².")

4. Please replace the paragraph beginning on page 5, line 28, with the words "In a
second preferred aspect, this invention..." and ending on page 6, line 6, with the words
20 "... measured at a pressure of 0.035 kg/cm²." by the following amended paragraph.

In a third ~~second~~-preferred aspect, this invention provides a package which is for
example stored in air and which comprises

- (a) a sealed container, and
- 25 (b) within the sealed container, a respiring biological material and a packaging
atmosphere around the biological material;

the sealed container including one or more permeable control sections which provide at
least the principal pathways and optionally substantially the only pathways for oxygen
and carbon dioxide to enter or leave the packaging atmosphere, at least one said
30 permeable control section being a gas-permeable membrane as defined in the first or
second preferred aspect of the invention.